Road M1-2.08-2.19, High Priority Fillslope Removal

EXISTING CONDITIONS AND PROJECT GOALS:
At milepost 2.1 along the main access road M1.0 (see Location Map, Sheet 2) approximately 2,400 cubic yards of fill is perched adjacent to the road and immediately above Big River. Portions of this fillslope have failed in the past resulting in direct sediment delivery to the river and unsafe vehicle passage along the road. Cracks in the roadway surface re-open each year during the late spring and summer and are an indication of ongoing fill settlement and likely eventual failure. Additionally, uncontrolled runoff from the adjacent old skid trail continues to adversely impact Road M1.0 and was a likely contributor to the 2003 fillslope failure. The California Department of Parks and Recreation (DPR) is removing this section of fillslope to reduce the potential for mass wasting that adversely impacts the road and delivers sediment directly into Big River. Project tasks include:

- remove oversteepened fill along the road;
- reduce the roadway width;
- obliterate the existing inside ditch and outslope the road; and
- control intermittent runoff that flows from the overgrown skid trail.

TASK DESCRIPTIONS FOR WORK ALONG ROAD M1.0
The full set of plans for the proposed work includes the following plan sheets and a booklet titled: *Standard Specifications & Best Management Practices for Disturbed Lands Remediation*. These plan sheets alone are insufficient to guide the proposed work.

0+00 to 4+00 Excavate and stockpile existing gravel road base (approximately 80 cy). This rock is to be reused to surface the road following removal of the fillslope. In addition, obliterate the inside ditch through this section.

0+10 to 0+40 After brushing only the fillslope (Specifications item 5.01), remove existing fillslope (approximately 150 cy); grade excavated slope to 2.5:1 (horizontal:vertical), and transition (blend) excavated slopes to match existing fillslopes to the north at Station 0+00; reduce M1.0 roadway surface width to 20 feet and outslope minimum 5 percent; transition road width appropriately to match existing road north of Station 0+00; haul all excavated material offsite to appropriate disposal site. Finish grade (Specifications item 4.07) and prepare slope for seeding and installation of erosion control blanket (Specifications item 4.07).

0+40 to 0+65 After brushing only the fillslope (Specifications item 5.01), remove existing fillslope (approximately 110 cy); grade excavated slope to 3.1:1 (horizontal:vertical), and transition (blend) excavated slopes to match graded slopes to the north and south; reduce M1.0 roadway surface width to 20 feet and outslope minimum 5 percent; transition road width appropriately to match road width to the north and south; haul all excavated material offsite to appropriate disposal site. Finish grade (Specifications item 4.07) and prepare slope for seeding and installation of erosion control blanket (Specifications item 4.07).
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0+65 to 1+10 After brushing only the fillslope per specifications (Item 5.01), remove existing fillslope (approximately 400 cy); grade excavated slope to 1.6:1 (horizontal:vertical), and transition (blend) excavated slopes to match graded slopes to the north and south; reduce M1.0 roadway surface width to 16 feet and outslope minimum 5 percent; final outslope and depth of fill materials to be removed will be determined at the site by the PI during excavation (care shall be taken to ensure that outboard edge of road is not fill); transition road width appropriately to match road width to the north and south; haul all excavated material offsite to appropriate disposal site. Finish grade (Specifications item 4.07) and prepare slope for seeding and installation of erosion control blanket (Specifications item 4.07).

1+10 to 1+40 After brushing only the fillslope (Specifications item 5.01), remove existing fillslope (approximately 100 cy); grade excavated slope to 2:1 (horizontal:vertical), and transition (blend) excavated slopes to match graded slopes to the north and south; reduce M1.0 roadway surface width to 16 feet and outslope minimum 5 percent; transition road width appropriately to match road width to the north and south; haul all excavated material offsite to appropriate disposal site. Finish grade (Specifications item 4.07) and prepare slope for seeding and installation of erosion control blanket (Specifications item 4.07).

1+40 to 1+75 This section of the fillslope has many second-growth redwoods that are to be retained if possible. However, one or two trees adjacent to the road at Station 1+70 may have to be removed. The final decision on removing these trees will be made by the PI as the fillslope excavation proceeds. Brush this area as necessary without disturbing trees; reduce M1.0 roadway surface width to 16 feet and outslope minimum 5 percent; transition road width appropriately to match road width to the north and south; grade excavated slope appropriately between undisturbed slope supporting the trees and the narrowed roadway; transition (blend) excavated slopes to match graded slopes to the north and south; haul all excavated material offsite to appropriate disposal site. Finish grade (Specifications item 4.07) and prepare slope for seeding and installation of erosion control blanket (Specifications item 4.07).

1+75 to 2+40 After brushing only the fillslope (Specifications item 5.01), remove existing failed fillslope (approximately 190 cy); finish grade excavated slope to 1.7:1 (horizontal:vertical), and transition (blend) excavated slopes to match existing fillslopes to the north and south; do not change existing road width or outslope through this section; haul all excavated material offsite to appropriate disposal site. Finish grade (Specifications item 4.07) and prepare slope for seeding and installation of erosion control blanket (Specifications item 4.07).

2+40 to 2+90 After brushing only the fillslope (Specifications item 5.01), remove existing fillslope (approximately 680 cy); grade excavated slope to 2.1:1 (horizontal:vertical), and transition (blend) excavated slopes to match graded slopes to the north and south; reduce M1.0 roadway surface width to 16 feet and outslope minimum 5 percent; transition road width appropriately to match road width to the northwest and southeast; haul all excavated material offsite to appropriate disposal site. Finish grade (Specifications item 4.07) and prepare slope for seeding and installation of erosion control blanket (Specifications item 4.07).

2+90 to 3+60 After brushing only the fillslope per specifications (Item 5.01), remove existing fillslope (approximately 440 cy); grade excavated slope to 3:1 (horizontal:vertical), and transition (blend) excavated slopes to match graded slope to the west and existing slope to the east; reduce M1.0 roadway surface width to 20 feet and outslope minimum 5 percent; transition road width appropriately to match road width to the north and south; do not disturb or remove trees at Station 3+70 unless directed to do so by the PI; haul all excavated material offsite to appropriate disposal site. Finish grade (Specifications item 4.07) and prepare slope for seeding and installation of erosion control blanket (Specifications item 4.07).

TASK DESCRIPTIONS FOR WORK ALONG THE OLD OVER-GROWN SKID TRAIL
A0+00 to A4+00 Construct ramp to access skid trail from Road M1.0; brush and rip overgrown skid trail under the supervision of the PI to facilitate mapping of drainage paths. PI shall map drainage paths on Plan Sheets and finalize design of either cross drains and/or berms to control runoff along the skid trail. to enable backhoe to work on old landing between A3+00 and A4+00. Following construction of cross-drains mulch and replant as per DPR specifications.

A3+70 Construct approximately 160 feet of cross drain (Item 4.05), or berm as specified by PI, to capture runoff from hillside and on landing and drain to the south; also construct energy dissipator at the outlet (Specifications item 4.08).

A1+40 Construct approximately 80 feet of cross drain (Item 4.05), or berm as specified by PI, to capture runoff from hillside and along skid trail and drain to the south; also construct energy dissipator at the outlet (Specifications item 4.08).

A0+00 to A4+00 Following construction of cross drains and or berms, mulch road by embedding large wood etc. into the ripped road surface.

POST-CONSTRUCTION EROSION CONTROL
A0+00 to A4+00 Following the finish grading, all disturbed slope areas will be seeded under the direction of DPR and then erosion control blankets (ECB) shall be anchored on all disturbed slope areas (Specifications item 4.07). In particular, the cutslope along road M1.0 between Stations 2+00 and 4+00 and beneath the old skid trail is to be brushed (remove all jubata grass) and protected with an (ECB). Following installation of the ECBs, finish grade M1.0 and then surface the road with angular gravel (3/4" minus) to a minimum thickness of 4 inches using stockpiled road base and imported gravel if necessary.

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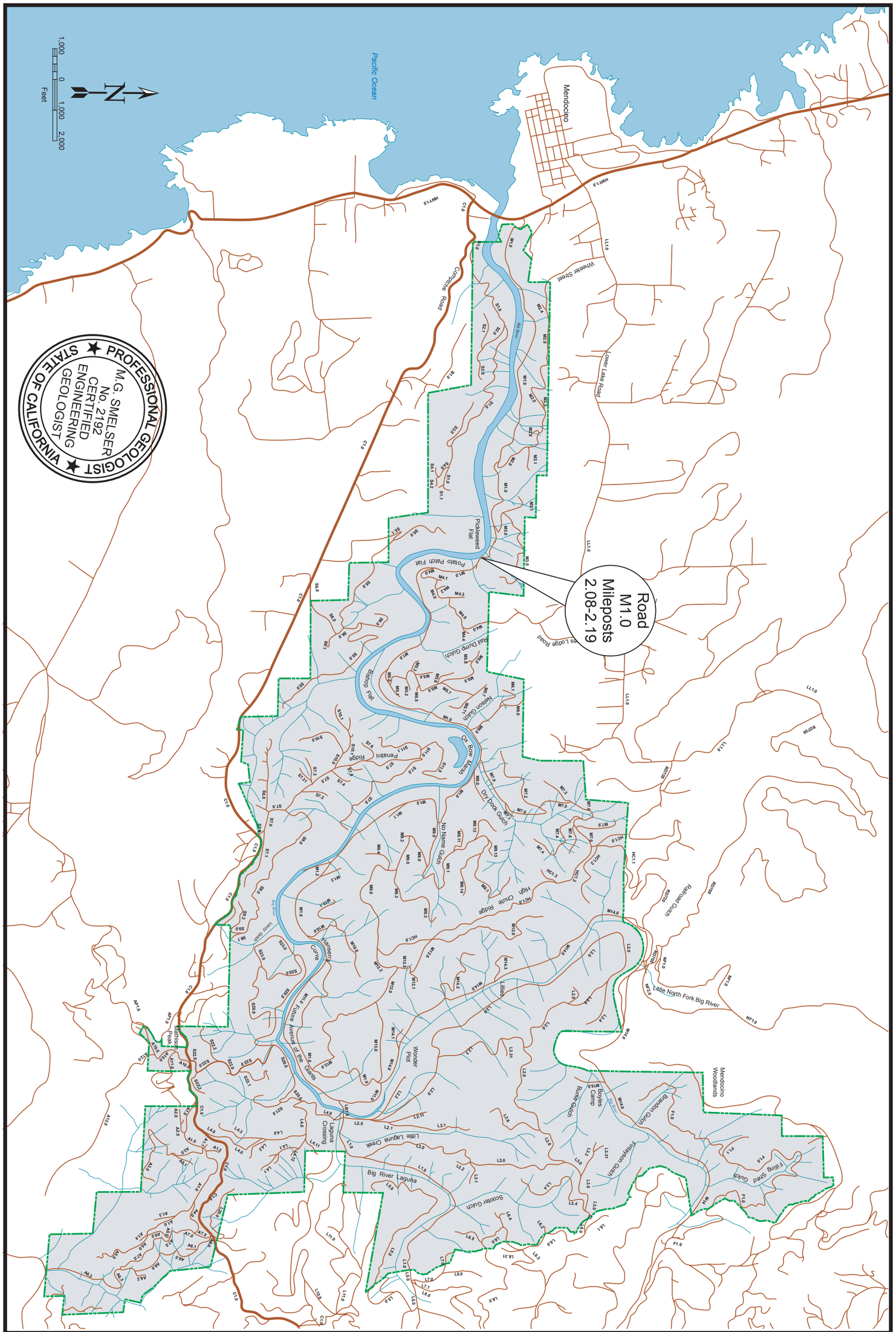
SHEET: 1 of 5

TITLE: Plan Sheet 1, Project Description and Tasks

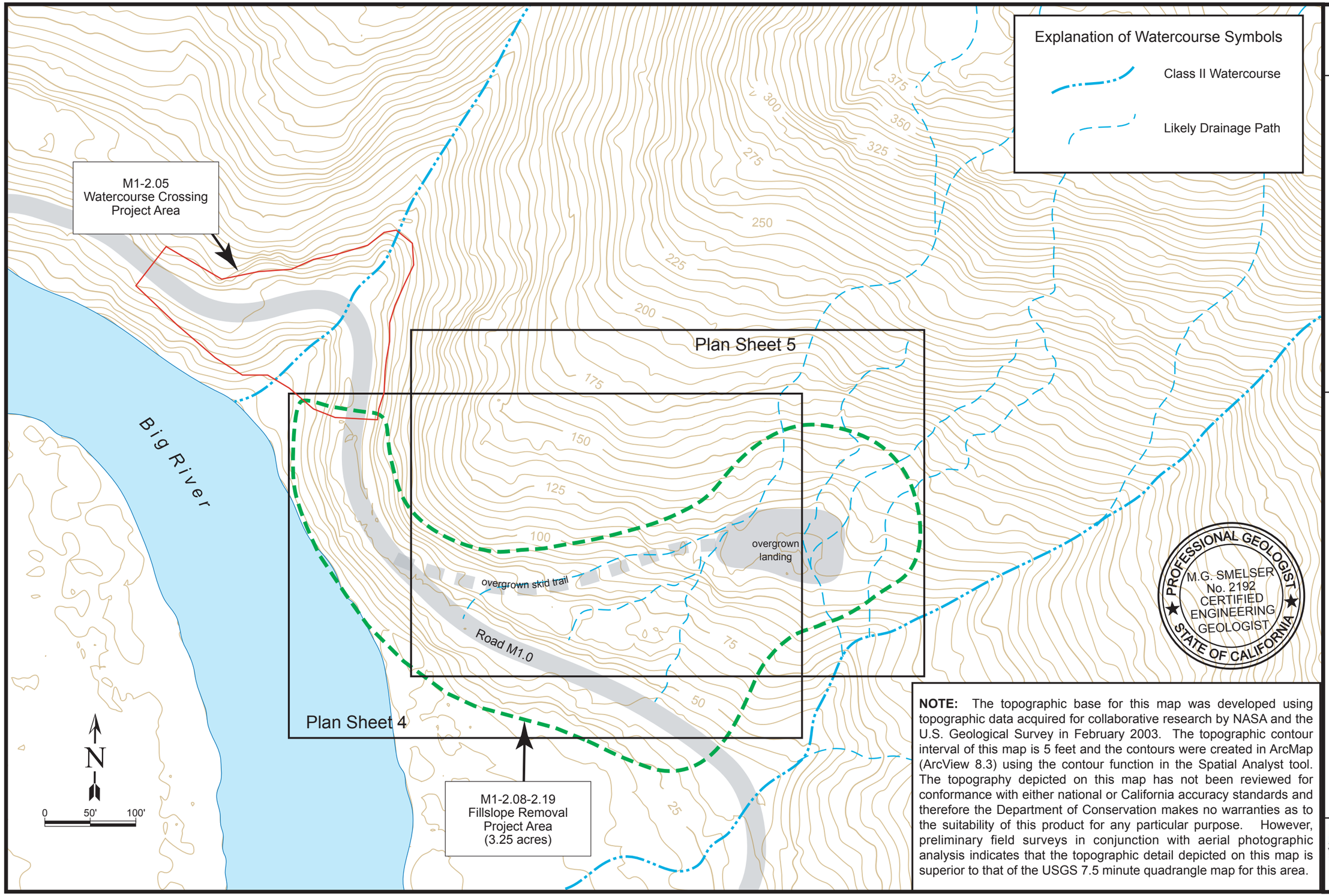
SCALE: none

DATE: February 28, 2006

PROJECT:
Road M1-2.08-2.19, High Priority Fillslope Removal
Big River Unit
Mendocino Headlands State Park, Mendocino, CA



PROJECT: Road M1-2.08-2.19, High Priority Fillslope Removal Big River Unit Mendocino Headlands State Park, Mendocino, CA	TITLE: Plan Sheet 2, Location Map SCALE: 1 inch = 3,000 feet DATE: February 28, 2006	SHEET: 2 of 5



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NOTE: The topographic base for this map was developed using topographic data acquired for collaborative research by NASA and the U.S. Geological Survey in February 2003. The topographic contour interval of this map is 5 feet and the contours were created in ArcMap (ArcView 8.3) using the contour function in the Spatial Analyst tool. The topography depicted on this map has not been reviewed for conformance with either national or California accuracy standards and therefore the Department of Conservation makes no warranties as to the suitability of this product for any particular purpose. However, preliminary field surveys in conjunction with aerial photographic analysis indicates that the topographic detail depicted on this map is superior to that of the USGS 7.5 minute quadrangle map for this area.

SHEET: 3 of 5

TITLE: Plan Sheet 3, Index to Plan Sheets

SCALE: 1 inch = 100 feet
DATE: February 28, 2006

PROJECT:
Road M1-2.08-2.19, High Priority Fillslope Removal
Big River Unit
Mendocino Headlands State Park, Mendocino, CA

M1-2.05
Watercourse Crossing
Project Area

RP 20

RP 175 (nail)

RP 300

0+00

0+50

1+00

1+50

2+00

2+50

3+00

3+50

4+00

4+50

5+00

A0+00

A0+50

A1+00

A1+50

af

Limits of Project Grading

seep

sandstone block

overgrown skid trail (grade = ~16%)

intermittent overland flow

2003 fillslope failure

proposed cross drain (min. grade = 18%) with energy dissipater at outlet

Road M1.0

Big River

150

125

100

75

50

25

N

0 20' 40'

EXPLANATION OF MAP SYMBOLS

Reference points (RP) - half-inch diameter rebar stakes that are approximately 3 feet long and typically embedded 2.5 feet into the ground.

Areas of Shallow Slope Instability - Areas include both cutslope and fillslope failures

Cutslope (top, toe)

Fillslope (top, af, toe)

Prominent Tree

Approximate Location of Contact Between Fill and Native Earth Materials

5+50 6+00 Project Stationing

Crack in Roadway

Inside Ditch

Likely Drainage Path

Tributary Watercourse

Road M1.0 Travel Path

Skid Trail

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PROJECT:
Road M1-2.08-2.19, High Priority Fillslope Removal
Big River Unit
Mendocino Headlands State Park, Mendocino, CA

TITLE: Plan Sheet 4, Stations 0+00 to 5+00

SCALE: 1 inch = 40 feet
DATE: February 28, 2006

SHEET: 4 of 5

EXPLANATION OF MAP SYMBOLS

RP 490

Reference points (RP) - half-inch diameter rebar stakes that are approximately 3 feet long and typically embedded 2.5 feet into the ground.

Areas of Shallow Slope Instability - Areas include both cutslope and fillslope failures

top toe — Cutslope

top af toe — Fillslope

* Prominent Tree

Approximate Location of Contact Between Fill and Native Earth Materials

5+50 6+00 — Project Stationing

Crack in Roadway

Inside Ditch

Likely Drainage Path

Tributary Watercourse

Road M1.0 Travel Path

Skid Trail

SEE PLAN SHEET 1 OF 5 FOR THE DESCRIPTION OF STATION BY STATION TASKS

N

0 20' 40'

175 150 125 100 75

Limits of Project Grading

overgrown skid trail (grade = ~16%)

overgrown landing

A0+00 A0+50 A1+00 A1+50 A2+00 A2+50 A3+00 A3+50 A4+00

skid trail and landing to be cleared of vegetation before final drainage mitigation measures are designed and implemented

proposed cross drain (min. grade = 18%) with energy dissipater at outlet

intermittent overland flow

RP 300

2+50 3+00 3+50

af

proposed cross drain (min. grade = 18%) with energy dissipater at outlet

Limits of Project Grading

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SHEET: 5 of 5

TITLE: Plan Sheet 5, Stations A0+00 to A3+50

SCALE: 1 inch = 40 feet
DATE: February 28, 2006

PROJECT:
Road M1-2.08-2.19, High Priority Fillslope Removal
Big River Unit
Mendocino Headlands State Park, Mendocino, CA

CALIFORNIA GEOLOGICAL SURVEY
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